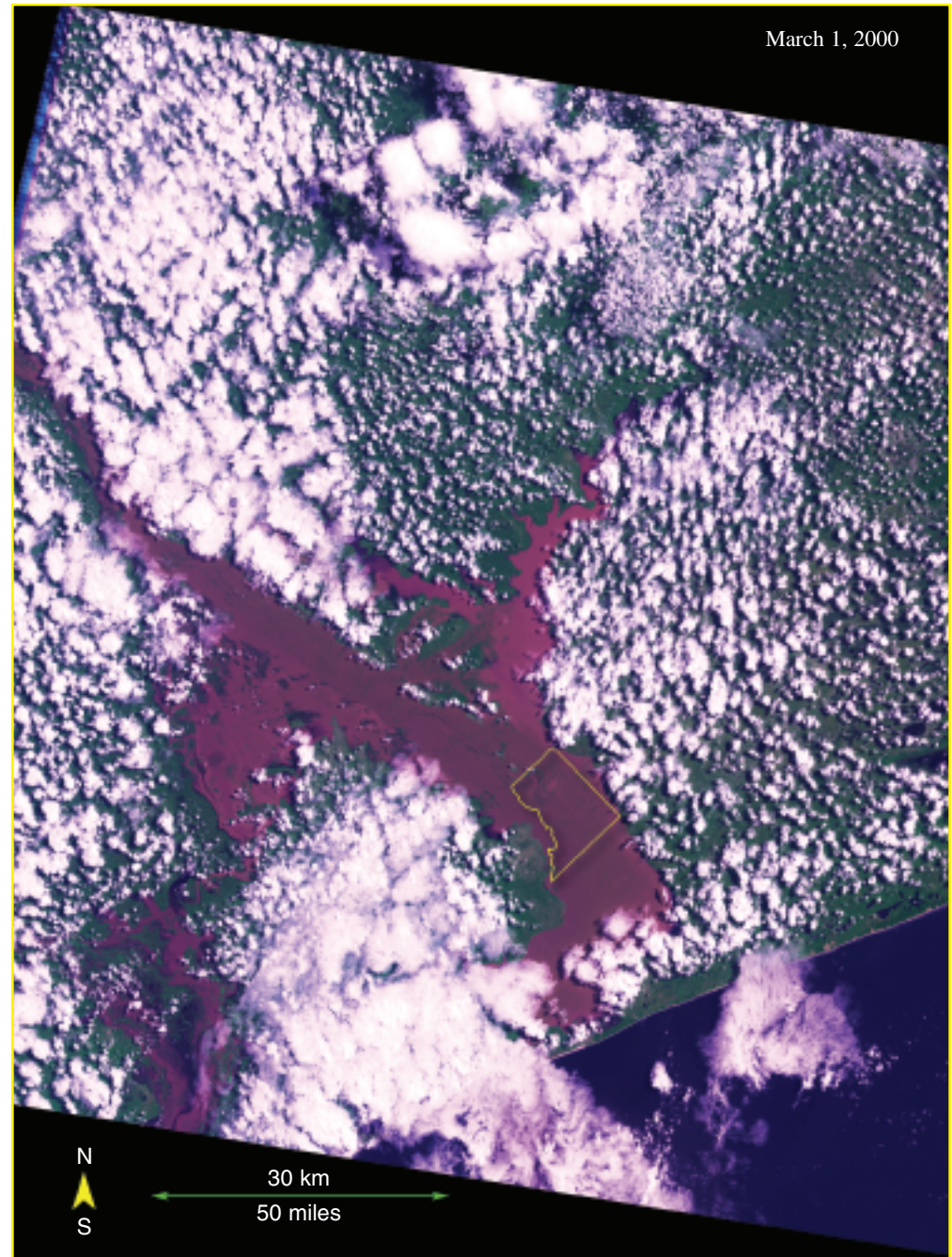
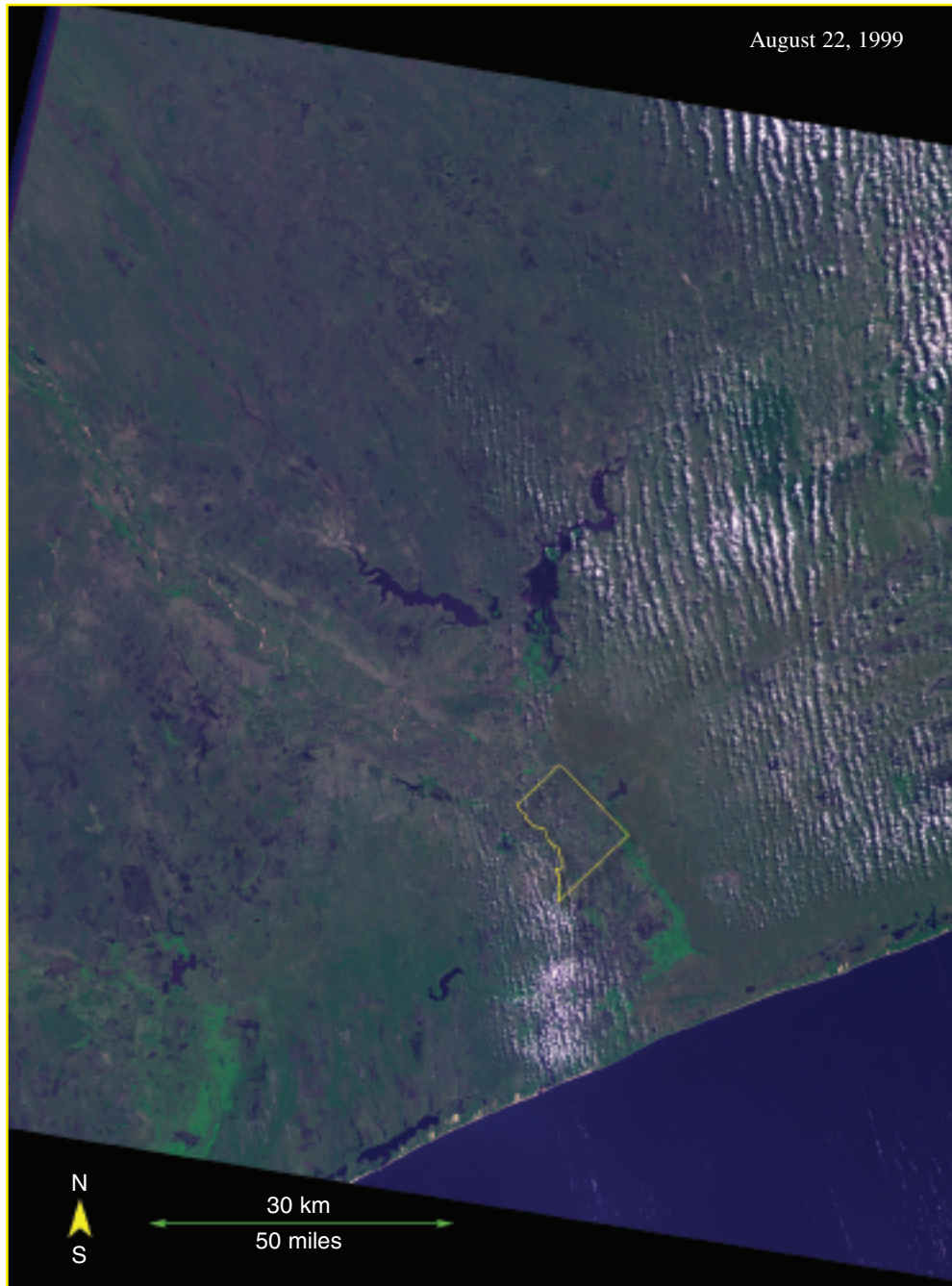


Flood in Mozambique





Flood in Mozambique

Floods are one of the most common and widespread of all natural disasters. These images from the Enhanced Thematic Mapper Plus (ETM+) onboard the Landsat 7 satellite, illustrate the severity of the floods experienced in Mozambique, Africa in March 2000.

The “before” image (left) was acquired on August 22, 1999, and the “flooded” image (right) was acquired on March 1, 2000, near peak flood stage. In these false-color images, the new lakes are pink, cumulus clouds are white, dry land is green, and the Indian Ocean is dark blue. Note that cumulus clouds blossom over dry land during the daytime. No cumulus clouds develop over the flooded areas because water does not heat up like dry land during the daytime.

Above average seasonal rainfall in early February 2000, combined with heavy rainfall from two separate tropical cyclones (Eline and Gloria) in late February caused the devastating flooding. An area roughly the size of New Jersey and Massachusetts (49,927 square kilometers or 19,277 square miles) was under water at the height of the floods. The area outlined in yellow represents the actual size of Washington D.C., an area covering 176.75 square kilometers (68.25 square miles).

The flooding caused widespread devastation of roads, livestock, crops, and entire villages. Thousands of lives were lost and nearly 1.25 million people were displaced from their homes. In addition, starvation and diseases such as cholera and malaria claimed more lives in the aftermath of the terrible flooding. Authorities in the region were desperate to obtain timely imagery such as this, not only to assess the extent of the flooding, but to assist them in deciding where to stage humanitarian relief efforts to best provide food and drinking water to the survivors.

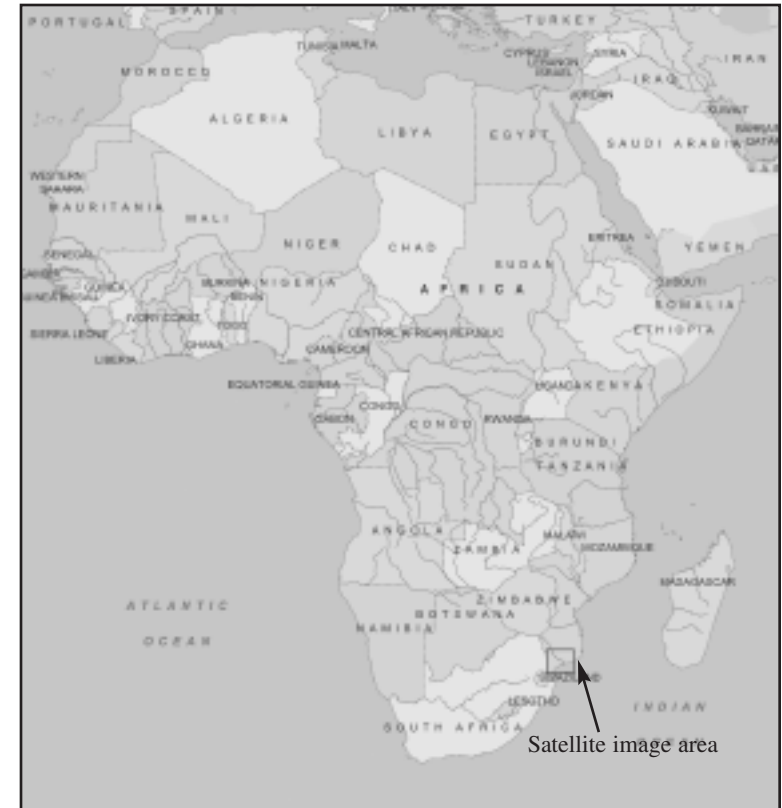
About the Landsat 7 satellite

Landsat 7 was launched into orbit on April 15, 1999. The Landsat program is a partnership between NASA and the U.S. Geological Survey (USGS). NASA was the lead agency for the development and launch of Landsat 7. USGS is the lead agency for post-launch Landsat 7 operations. Landsat 7 provides images of the land surface and surrounding coastal regions to national and international users. Those who observe, monitor, characterize, study, map, and manage the Earth's continental surfaces over time use these data.

Additional Information

For more information on Landsat 7, visit NASA's Earth Observatory at <http://earthobservatory.nasa.gov/Library/Landsat/> or the Landsat website at <http://landsat.gsfc.nasa.gov>

Images courtesy of Laura Rocchio, Laboratory for Terrestrial Physics and Jesse Allen, NASA's Earth Observatory at NASA Goddard Space Flight Center.



For the Classroom

Flood! Remote Sensing Activities

<http://www.mcps.k12.md.us/departments/eventscience/EBS.EOS.FL.html>

Students look for evidence of changes in river channels using imagery from the 1993 floods on the Missouri River. This lesson also discusses oxbows and floodplains. (*Courtesy of the Event-Based Science Project through a grant from NASA and scientists from the Goddard Space Flight Center.*)